GUIDES

FOR

ASSISTING

WEIGH-A-DAY-A-MONTH

MEMBERS

Federal Extension Service . U. S. Department of Agriculture
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Example

Assume there is a local 4 percent market and the average milk
price for the year was $5.00. A Jersey cow has just completed
a lactation record of 4,000 pounds milk. A Holstein cow has
a completed record of 6,000 pounds milk. Because he does not
have butterfat tests on individual cows and because he has a
mixed herd, the dairy farmer decides to use the DHIA breed
averages of 5.2 for Jerseys and 3.6 for Holsteins.

The butterfat differential is 6 cents, up or down. Therefore,
the Jersey milk would bring $5.72 and the Holstein milk $4.76.
Applying this information -- (1) pounds of milk produced and
(2) average price received -- to Table 1, the value of the
Jersey milk is $230 and the Holstein milk $287.

Tables 2 and 3 may be used to estimate the feed cost for each
prospective cull. Table 2 shows that a 900 pound Jersey,
producing 4,000 pounds of milk, would require about 4,220
pounds TDN. Using a TDN cost of .029 from Table 3, the
estimated feed cost would be $122.38 (4,220 x .029). Like-
wise, the estimated feed cost for a 1,400 pound Holstein
producing 6,000 pounds milk would be $173.13. This would
leave an income above feed cost of $107.62 for the Jersey and
$113.87 for the Holstein.

The other considerations on pages 5 and 6 will help make the
final decision on whether to cull the cows or to keep them
in the herd.

Table 1. <u>Value of Milk Produced</u>
If the pounds of milk produced or the average price received are
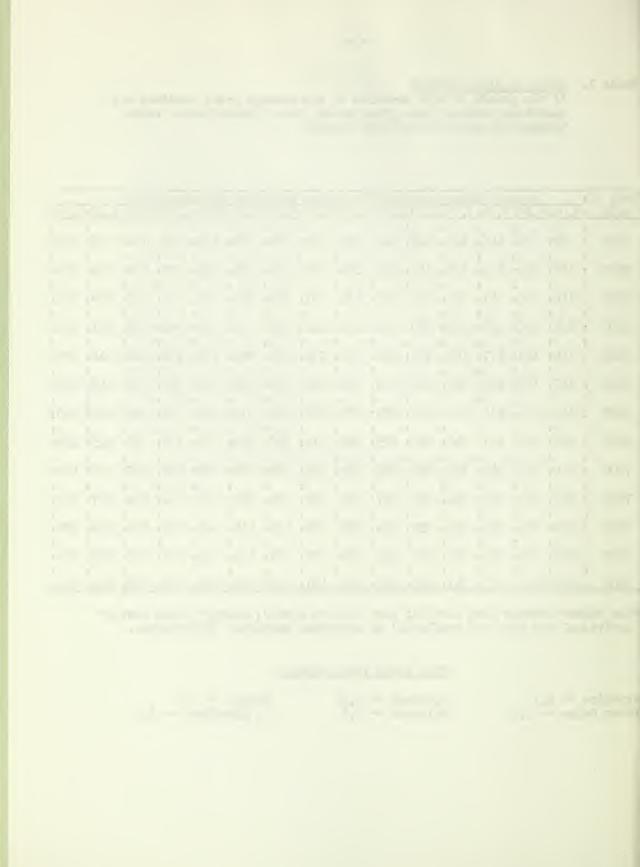somewhere between those given below, use a proportionate value
between the next low and high values.

Lbs. of milk	Average Price Received (including butterfat differential*)														
	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50
3000	90	98	105	113	120	128	135	143	150	158	165	173	180	188	195
3500	105	114	123	132	140	149	158	167	175	184	193	202	210	219	228
4000	120	130	141	151	160	170	181	191	200	210	221	231	240	250	261
4500	135	146	159	170	180	191	204	215	225	236	249	260	270	281	294
5000	150	162	177	189	200	212	227	239	250	262	277	289	300	312	327
5500	165	178	195	208	220	233	250	263	275	288	305	318	330	343	360
6000	180	194	213	227	240	254	273	287	300	314	333	347	360	374	393
6500	195	210	231	246	260	275	296	311	325	340	361	376	390	405	426
7000	210	226	249	265	280	296	319	335	350	366	389	405	420	436	459
7500	225	242	267	284	300	317	342	359	375	392	417	434	450	467	492
8000	240	258	285	303	320	338	365	383	400	418	445	463	480	498	525
8500	255	274	303	322	340	359	388	407	425	444	473	492	510	529	558
9000	270	290	321	341	360	380	411	431	450	470	501	521	540	560	591

*Use either average herd test (if cows all one breed), average breed test or
individual cow test (if available) to determine butterfat differential.

<u>DHIA Breed Test Averages</u>

Ayrshire -- 4.1   Guernsey -- 4.8   Jersey -- 5.2
Brown Swiss -- 4.1   Holstein -- 3.6   M. Shorthorn -- 3.9

Table 2. <u>Pounds of Total Digestible Nutrients (TDN) Required</u>
 The pounds of TDN required to produce at certain levels of pro-
 duction are given below for each breed at 4 different body
 weights.
 To estimate the feed cost for each prospective cull:
   a. Determine the cost of TDN in the herd ration or use the
      estimated cost in Table 3.
   b. TDN required x cost of TDN = estimated feed cost.
 Another source of feed cost information may be county or State
 DHIA data.

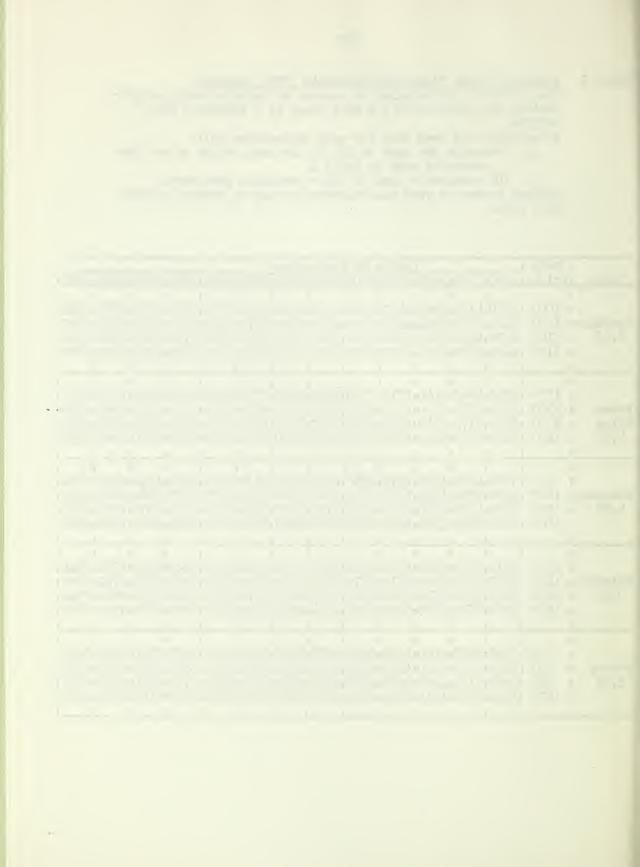| Breed	Body Weight	Levels of Production												
		3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	9000
Ayrshire 4.1%	1000	3970	4130	4300	4460	4620	4790	4950	5120	5280	5450	5610	5780	5940
	1050	4120	4280	4450	4610	4770	4940	5100	5270	5430	5600	5760	5930	6090
	1100	4270	4430	4600	4760	4920	5080	5250	5410	5580	5740	5910	6070	6240
	1150	4420	4580	4750	4910	5060	5230	5390	5560	5720	5890	6050	6220	6380
Brown Swiss 4.1%	1250	4710	4880	5040	5210	5350	5520	5680	5850	6010	6180	6340	6510	6670
	1300	4860	5020	5190	5350	5500	5670	5830	6000	6160	6330	6490	6660	6820
	1350	5010	5170	5340	5500	5650	5810	5980	6140	6310	6470	6640	6800	6970
	1400	5160	5320	5490	5650	5790	5960	6120	6290	6450	6620	6780	6950	7110
Guernsey 4.8%	950	3920	4100	4290	4470	4650	4830	5010	5190	5380	5560	5740	5920	6100
	1000	4070	4250	4430	4610	4790	4980	5160	5340	5520	5700	5880	6070	6250
	1050	4220	4400	4580	4760	4940	5120	5300	5490	5670	5850	6030	6210	6400
	1100	4370	4550	4730	4910	5090	5270	5450	5630	5810	6000	6180	6360	6540
Holstein 3.6%	1350	4910	5060	5220	5370	5520	5670	5830	5980	6130	6280	6440	6590	6740
	1400	5060	5200	5360	5510	5670	5820	5970	6120	6280	6430	6580	6740	6890
	1450	5210	5360	5510	5670	5810	5960	6120	6270	6420	6580	6730	6880	7040
	1500	5360	5510	5660	5820	5960	6110	6260	6420	6570	6720	6880	7030	7180
Jersey 5.2%	850	3690	3880	4070	4270	4460	4650	4840	5030	5220	5420	5610	5800	5990
	900	3840	4030	4220	4420	4600	4790	4990	5180	5370	5560	5750	5950	6140
	950	3980	4170	4360	4560	4750	4940	5130	5320	5520	5710	5900	6090	6280
	1000	4130	4320	4510	4710	4890	5090	5280	5470	5660	5850	6050	6240	6430

Table 3. **Estimated Cost Per Pound of TDN**
From the three groups below, select the rate of feeding most applicable to conditions in the individual herd. The cost per pound of TDN will be in the appropriate column, depending upon the local grain and hay costs. In-between rates of feeding would have proportionate costs.

Rate of Feeding Forage and Grain	Cost of hay /T	Cost of 100 lb. Grain Mixture								
		2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50
1. High forage – low grain feeding (2.75 lb. hay equivalent per 100 lb. body weight – full feeding of forage)	20	.022	.022	.022	.023	.023	.024	.024	.025	.025
	25	.026	.026	.027	.027	.028	.028	.029	.029	.030
	30	.030	.031	.031	.032	.032	.033	.033	.034	.034
	35	.035	.035	.036	.036	.037	.037	.038	.038	.039
	40	.040	.040	.040	.041	.041	.042	.042	.043	.043
2. Medium forage – medium grain feeding (2.0 lb. hay equivalent per 100 lb. body weight – average feeding of forage)	20	.025	.026	.028	.029	.030	.031	.032	.033	.034
	25	.029	.030	.031	.032	.033	.034	.035	.036	.037
	30	.032	.033	.034	.035	.037	.038	.039	.040	.041
	35	.035	.036	.038	.039	.040	.041	.042	.043	.044
	40	.039	.040	.041	.042	.043	.044	.045	.046	.047
3. Low forage – high grain feeding (1.0 lb. hay equivalent per 100 lb. body weight – limited feeding of forage)	20	.031	.033	.035	.037	.040	.042	.044	.046	.048
	25	.032	.034	.037	.039	.042	.044	.047	.049	.052
	30	.034	.036	.039	.041	.043	.046	.048	.050	.053
	35	.036	.038	.040	.042	.045	.047	.049	.051	.054
	40	.037	.040	.042	.044	.047	.049	.051	.054	.056

Final Action by the Dairy Farmer

Question: Should the cow be culled or kept in the herd?

Answer: The dairy farmer is the only person who can make
             this decision as it should be made.

             It is possible that a cow in one herd should be culled;
             while in another herd, under a different set of condi-
             tions, she may be wisely kept. Some cows are such low
             producers they should be culled in any herd.

Other Considerations
(in addition to income above feed cost)

1. Borderline cows. These cows should be checked carefully:

    Jersey cows producing less than (5.300)* pounds milk or
        (250)* pounds butterfat

or Guernsey cows producing less than (5,600)* pounds milk or
        (250)* pounds butterfat

or Ayrshire and Brown Swiss cows producing less than (6,200)*
        pounds milk or (250)* pounds butterfat

or Holstein cows producing less than (6,700)* pounds milk or
        (250)* pounds butterfat

or If a culling level has been set for the herd, any cow pro-
        ducing less than that level, regardless of production.

2. Feed situation. On some farms, due to the good financial
    condition of the dairy farmer, feed needed can be purchased
    at market cost or, if produced on the farm, it can be sold
    on the market or converted to uses other than for milk
    production.

    On other farms, the dairy farmer may be limited in the
    amount of feed he is able to buy or, if he produces it,
    it may have little alternative use or sales value. Using
    his feed for milk production may be his best choice.

    In the first situation above, a dairy farmer would rightly
    demand more income above feed cost than would be the case
    in the second situation where there may be definite
    limitations in the value and use of feed.

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*For illustrations only. These levels, to indicate borderline
 cows, should be localized.

3. Labor situation. Just as the feed situation will vary from one dairy farm to another, so will the labor situation.

   Some dairy farmers may be able to realize more from their labor by diverting it to other jobs or enterprises. The family labor may not be a consideration on the dairy farm only, because of the availability of off-the-farm employment.

   On other farms, there may be limitations to the use of the dairy farmer's labor as well as that of his family. He may have no choice but to utilize the family's labor solely in the production of milk. Any return for family labor and investment by a cow would be of value to the family's income.

   As with the feed situation, the limitations on the family labor should be considered in deciding whether certain cows should be culled from the herd.

4. Other factors. Age of cow, health of cow, temperament of cow, ease of milking, market value, size of herd, number and kind of replacements available, and opportunity cow had to produce at her best.